

Fisher Population Analyses 2006

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Abstract

The fisher population in the northern third of Wisconsin grew rapidly during the 1980s. Higher harvest rates during the 1990s slowed or stabilized population growth. During the 1990s, fall population estimates fluctuated around an average of 10,700 fishers, approximately 16% above the population goal of 9,200. Reduced harvest rates during 2003 and 2004 apparently allowed the population to increase to over 13,000 by fall 2005. A harvest of 2,725 fishers was recommended for the 2006 season.

Methods

Trappers in all zones were required to register their fishers at a DNR station. In 2005, trappers in zones E and F were required to surrender the carcass. Date of harvest and harvest zone (Fig. 1) were recorded for each carcass. A canine tooth was extracted from each skull or carcass and all teeth were x-rayed. Kits were identified by the presence of an open foramen and wide pulp cavity (Kuehn and Berg 1981, Jenks and Bowyer 1984). Teeth from fishers ≥ 1 years old were sent to Matson's Laboratory, Milltown, MT for processing and aging by counting annuli in the cementum. The sex of each fisher carcass was determined by examining reproductive organs. Ovaries were removed from all female carcasses and stored in 10% formalin until they were firm enough to hand section. The sections were then examined for presence of corpora lutea.

Fisher population estimates and trends were determined using Minnesota's Fisher Population Model and data obtained from harvest registration, carcass collections, and the Winter Furbearer Track Counts. Kohn et al. (1993) described procedures and interpretations in detail for data collected during 1985-92.

The Fisher Population Model was refined in 1995-96. Major changes included adjustments to illegal harvest estimates during earlier seasons with low harvests, and direct use of track frequencies observed in Winter Furbearer Track Counts as an independent estimate of population trends. The model was then modified for application in each Fisher Management Zone in 1997. Starting population size in the model was adjusted in zones A and C in 2003 to improve the correlation between model simulated population trends and trends in winter track counts.

Results

Carcasses were obtained from 68 fishers (26 females, 42 males) harvested in Zones E and F during 2005. Reproductive tracks from 23 yearling or adult females were examined. Age has not been determined at this time. Since 1985, ages have been obtained from 9,098 harvested fishers (Table 1). Age distributions have been similar between sexes. On average, juveniles have comprised approximately 50% of the fishers harvested, yearlings 25%, and adults 25%.

The WDNR set a population goal of 9,200 fishers for Zones A, B, C, and D (1 per 2 square miles of habitat) in 1997 due to public concern about the high number of fishers. There were an estimated 11,500 fishers in the northern third of the state at that time (Table 2). The 1997 fisher

harvest (>30% of the fall population) exceeded our harvest goal resulting in an estimated population for 1998 below the recently established population goal. Conservative harvests in 1998-2000 (6-8% of the fall population) allowed the population to recover. More liberal harvests in 2001-2002 (15-16% of fall population) appeared to stabilize population growth. Fisher harvests in 2003 and 2004 (9-13% of fall population) were less than the harvest objectives. The estimated harvest rate in 2005 was 16% of the fall population.

The fisher population models produced estimates for fall 2006 of approximately 4,200 fishers in Zone A, 3,400 in Zone B, 3,000 in Zone C, and 3,200 in Zone D. Fisher populations appear to be above goal in all northern forest zones. Population goals have not been established and models have not been developed for Zones E and F.

The WDNR Furbearer Advisory Committee recommended harvest goals for 2006 of 900 fishers in Zone A, 550 in Zone B, 525 in Zone C, 550 in Zone D, 100 in Zone E, and 100 in Zone F. Harvest recommendations for zones A-D are designed to reduce or stabilize populations in these zones.

Literature Cited

Jenks, J. A., and R. T. Bowyer. 1984. Sex and age-class determination for fisher using radiographs of canine teeth. J. Wildl. Manage. 48(2):626-628.

Kohn, B. E., N. F. Payne, J. E. Ashbrenner, and W. A. Creed. 1993. The fisher in Wisconsin. Wis. Dep. Nat. Resour. Tech. Bull 183. 24 pp.

Kuehn, D. W. and W. E. Berg. 1981. Use of radiographs to identify age-classes of fisher. J. Wildl. Manage. 45(4):1009-10.

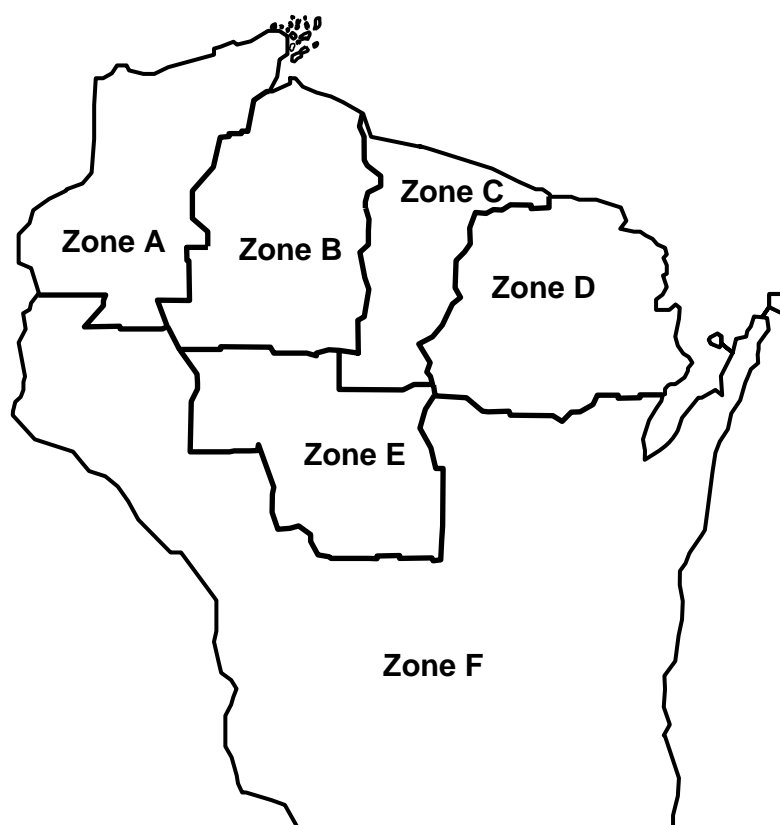


Figure 1. Wisconsin's Fisher Management Zones open to trapping, 2005. Zone F was opened to trapping in 2004 for the first time since fishers were reintroduced.

Table 1. Ages of fishers harvested in Wisconsin, 1985-2004.

| Year | No. Aged | Percent in Age Class | | | | | |
|-------------------|-------------|----------------------|------|-------|-------|------|-------|
| | | Females | | | Males | | |
| | | Juv. | Ylg. | Adult | Juv. | Ylg. | Adult |
| 1985-89 | 919 | 43 | 28 | 29 | 53 | 18 | 29 |
| 1990 | 271 | 49 | 34 | 17 | 50 | 27 | 23 |
| 1991 | 167 | 49 | 27 | 23 | 47 | 21 | 32 |
| 1992 | 1,420 | 52 | 25 | 23 | 51 | 26 | 24 |
| 1993 | 1,172 | 39 | 30 | 31 | 51 | 25 | 24 |
| 1994 | 1,158 | 55 | 24 | 22 | 54 | 24 | 22 |
| 1995 | 821 | 51 | 28 | 22 | 55 | 27 | 18 |
| 1996 | 0 | | | | | | |
| 1997 | 0 | | | | | | |
| 1998 | 247 | 55 | 31 | 14 | 65 | 18 | 18 |
| 1999 | 431 | 44 | 30 | 26 | 52 | 31 | 17 |
| 2000 | 529 | 44 | 30 | 26 | 47 | 31 | 22 |
| 2001 | 899 | 37 | 28 | 35 | 44 | 27 | 29 |
| 2002 ^a | 18 | 75 | 0 | 25 | 40 | 30 | 30 |
| 2003 ^a | 23 | 44 | 33 | 22 | 43 | 21 | 36 |
| 2004 | 1,023 | 40 | 26 | 34 | 48 | 29 | 23 |

^a Only fishers harvested in Zone E were aged.

Table 2. *Zone-specific fisher population estimates and trends, 1984-2006^a.*

| Year | Fisher Management Zones | | | | Total |
|------|-------------------------|-------|-------|-------|--------|
| | A | B | C | D | |
| 1984 | 1,000 | 1,400 | 600 | 1,100 | 4,100 |
| 1985 | 1,100 | 1,700 | 800 | 1,300 | 4,900 |
| 1986 | 1,300 | 1,900 | 900 | 1,600 | 5,700 |
| 1987 | 1,500 | 2,200 | 1,100 | 1,800 | 6,600 |
| 1988 | 1,500 | 2,500 | 1,200 | 2,000 | 7,200 |
| 1989 | 1,600 | 2,900 | 1,400 | 2,300 | 8,200 |
| 1990 | 1,600 | 3,200 | 1,700 | 2,500 | 9,000 |
| 1991 | 1,800 | 3,600 | 1,900 | 2,900 | 10,200 |
| 1992 | 2,100 | 4,100 | 2,200 | 3,300 | 11,700 |
| 1993 | 2,100 | 4,000 | 2,400 | 3,300 | 11,800 |
| 1994 | 2,100 | 3,800 | 2,500 | 3,300 | 11,700 |
| 1995 | 2,100 | 3,800 | 2,400 | 2,900 | 11,200 |
| 1996 | 2,300 | 3,800 | 2,400 | 2,900 | 11,400 |
| 1997 | 2,300 | 3,900 | 2,400 | 2,900 | 11,500 |
| 1998 | 2,400 | 2,600 | 1,800 | 2,000 | 8,800 |
| 1999 | 2,700 | 2,800 | 2,100 | 2,200 | 9,800 |
| 2000 | 3,000 | 3,000 | 2,200 | 2,400 | 10,600 |
| 2001 | 3,400 | 3,300 | 2,400 | 2,800 | 11,900 |
| 2002 | 3,500 | 3,000 | 2,400 | 2,800 | 11,700 |
| 2003 | 3,600 | 3,000 | 2,500 | 2,700 | 11,800 |
| 2004 | 4,000 | 3,200 | 2,700 | 2,900 | 12,900 |
| 2005 | 4,200 | 3,400 | 2,900 | 3,100 | 13,600 |
| 2006 | 4,200 | 3,400 | 3,000 | 3,200 | 13,900 |
| GOAL | 1,700 | 3,200 | 1,600 | 2,700 | 9,200 |

^a Population models have not been developed for zones E and F.